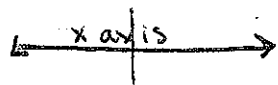


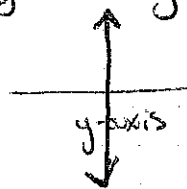
# Notes - Domain + Range from a Graph

Remember: Domain is  $x$  values.



(left bound, right bound)

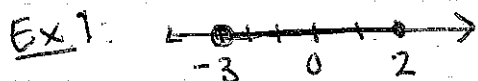
Range is  $y$  values



(low, high)

We will write our answers in interval notation

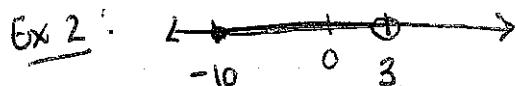
(lowest #, highest #)



Ex 1: is written as  $[-3, 2]$  or  $-3 \leq x \leq 2$

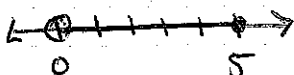
- An open circle is  $<$  or  $>$  (not equal to) and uses rounded parentheses  $()$

- a closed circle is  $\leq$  or  $\geq$  (can be equal to) and uses square brackets  $[]$

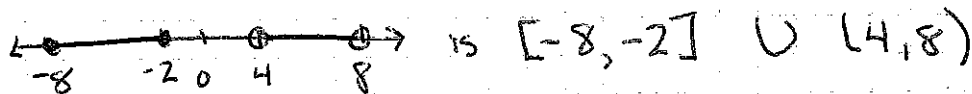


Ex 2: is  $[-10, 3)$  or  $-10 \leq x < 3$

(This means all of the numbers between -10 and 3, including -10 but not including 3)

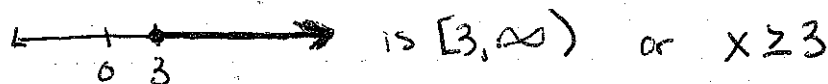
Yay do! Ex 3:  is

Ex 4: Use  $\cup$  (called "union") if there's more than one section.

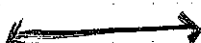


is  $[-8, -2] \cup (4, 8)$

Ex 5: Going off to infinity ( $\infty$ ) always uses round parentheses

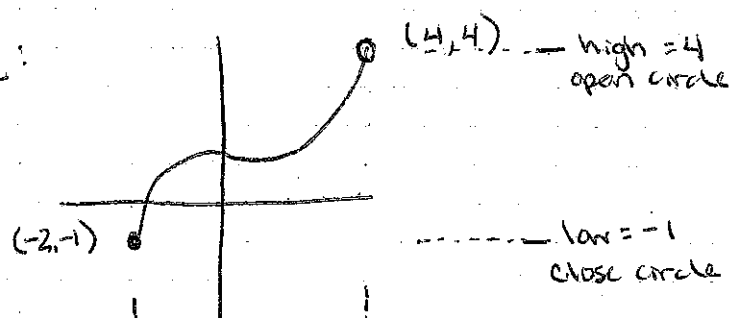


is  $[3, \infty)$  or  $x \geq 3$

Ex 6:  is  $(-\infty, \infty)$  or "all real numbers" or  $\mathbb{R}$

- To find domain, look at the furthest left and right points
- To find range, look at the lowest and highest point

Ex 1:



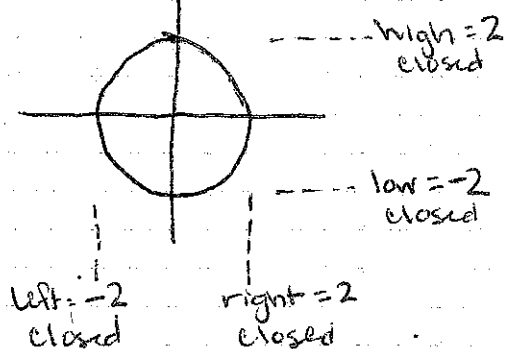
$$\Rightarrow R: [-1, 4)$$

left = -2  
close circle

right = 4  
open circle

$$\Rightarrow D: [-2, 4)$$

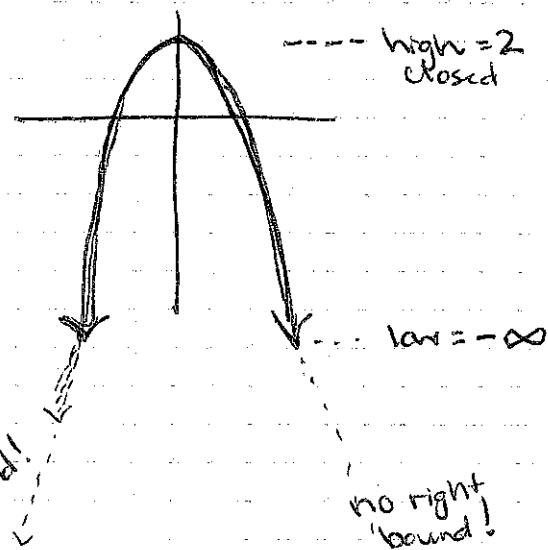
Ex 2: Circle with radius = 2



$$D: [-2, 2]$$

$$R: [-2, 2]$$

Ex 3: Arrows at the end mean they go off to infinity



$$D: (-\infty, \infty) \text{ or } \mathbb{R}$$

$$R: (-\infty, 2]$$

no left bound!

no right bound!